

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An engine auxiliary drive for a motor vehicle with a toothed-gear drive [[,]] comprising:

~~that has a first toothed gear wheel made of plastic~~ and a second toothed gear wheel with tooth flanks meshing with each other, characterized by said tooth flanks of said toothed gear wheels being comprising an involute-free or at least nearly involute-free mesh profile in the force transmission area, and transition from a concave area directly ~~or at least nearly directly~~ to a convex area, effective profiles of said tooth flanks matching in a manner that ~~it comes to the~~ meshing of the tooth flanks occurs at planiform contact regions, linearly viewed in cross section, along their complete height (h₄,h₅), and that the first toothed gear wheel being made of plastic; and

the effective profiles of the tooth flanks coordinated with each other over their entire height (h₄,h₅), thereby establishing said planiform contact regions, linearly viewed in cross section, along their complete height.

2. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the second gear wheel is made of a material with greater strength than the first gear wheel.

3. (currently amended) The engine auxiliary drive according to Claim 1, characterized in that at least sections of the opposing tooth flanks of gear wheels have nearly the same curvature in their tooth flanks.

4. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the concave area is situated in an area adjoining a tooth base and the convex area is situated in an area of the respective teeth adjoining a tooth crest.

5. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the second gear wheel is made of metal.

6. (previously presented) The engine auxiliary drive according to Claim 5, characterized in that the tooth thickness of the teeth of the gear wheel made of metal is less than the thickness of the teeth of the plastic gear wheel.

7. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the gear wheel made of plastic has a greater tooth width or tooth thickness on the pitch circle of the gear wheel than a space width between adjacent teeth.

8. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the gear wheel made of metal has a smaller tooth width or tooth thickness on the pitch circle of the gear wheel than a space width between adjacent teeth.

9. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that during the rolling off of the gear wheels there are always two or more teeth of the gear wheels meshed with each other.

10. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the plastic gear wheel is an injection molded part that receives no additional treatment after the injection molding.

11. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the gear wheel made of plastic is injection molded onto a hub or a part of a shaft having raised parts and/or depressions on its outer circumference.

12. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that it is intended for driving one or more balancing shafts.

13. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the first and second gear wheels are designed as helical-toothed spur gears.

14. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the first and second gear wheels are designed as straight-toothed spur gears.

15. (previously presented) The engine auxiliary drive according to Claim 1, characterized in that the plastic for the first gear wheel is a homogeneous plastic.

16. (new) An engine auxiliary drive for a motor vehicle with a toothed-gear drive comprising:

a first toothed gear wheel made of plastic and achieving a and a second toothed gear wheel with tooth flanks meshing with each other, characterized by said tooth flanks of said toothed gear wheels having an involute-free mesh profile in the force transmission area, and transition from a concave area directly to a convex area, effective profiles of said tooth flanks matching in a manner that it comes to planiform contact regions, linearly viewed in cross section, along their complete height (h_4, h_5);

the effective profiles of the tooth flanks coordinated with each other over their entire height (h_4, h_5), thereby establishing said planiform contact regions, linearly viewed in cross section, along their complete height (h_4, h_5); and

the transition from the concave area directly to the convex area provides a direct change from a concave to a convex curve in transition zones with no involute transition area, thereby reducing development of noise during meshing, and achieving a high bearing and loading capability over an entire rolling contact zone resulting from the meshing of the teeth.

17. (new) The engine auxiliary drive according to Claim 16, characterized in that the second gear wheel is made of a material with greater strength than the first gear wheel.

18. (new) The engine auxiliary drive according to Claim 16, characterized in that:
the second gear wheel is made of metal;

a tooth thickness of the teeth of the gear wheel made of metal is less than a thickness of the teeth of the gear wheel made of plastic; and

the gear wheel made of plastic has a greater tooth width or tooth thickness on the pitch circle of the gear wheel than a space width between adjacent teeth.

19. (new) The engine auxiliary drive according to Claim 16,
characterized in that during the rolling off of the gear wheels there are always two or more teeth of the gear wheels meshed with each other.